

## *Kelissa*, a new genus of *Iridaceæ* from South Brazil

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**Summary :** Since the writer examined the material that served BAKER for erecting *Herbertia brasiliensis* Bak. (*Sello 1370 & 2863*, labelled "Brasilia Meridionalis"), it was evident to him that the species needed a special placement in a new genus to be described. A second collection (*Pabst 6448*), with precise data of locality, offered the opportunity for collecting bulbs for experimental culture and study. Features displayed by living plants in flower, allowed the preparation of an accurate description and illustrations. The new genus *Kelissa* is therefore proposed, and the new combination *K. brasiliensis* (Bak.) Ravenna is established. The relationships of *Kelissa* are with *Cypella* Herb. and *Trifurcia* Herb.

**Résumé :** A la suite de l'examen du matériel utilisé par BAKER pour établir *Herbertia brasiliensis* Bak. (*Sello 1370 & 2863* portant l'indication "Brasilia Meridionalis"), il a semblé évident à l'auteur qu'il fallait créer pour cette espèce un nouveau genre. Grâce à une deuxième récolte (*Pabst 6448*) portant des indications précises de localité, des bulbes ont été prélevés et la plante cultivée et étudiée expérimentalement; une description complète de l'espèce, accompagnée d'illustrations, est donnée à la suite de l'examen des plantes vivantes en fleur. Le nouveau genre *Kelissa* est ainsi proposé et une combinaison nouvelle, *K. brasiliensis* (Bak.) Ravenna, est établie. *Kelissa* possède des affinités avec *Cypella* Herb. et *Trifurca* Herb.

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In 1959, I received on loan from the Botanical Museum of Berlin-Dahlem, the material used by BAKER (1892, p. 72) for proposing *Herbertia brasiliensis* Bak. This consisted of two sheets (*Sello 1370 & 2863*) labelled "Brasilia Meridionalis", each bearing several mounted specimens. After an accurate examination, I concluded that the plants did not fit in "*Herbertia*" (at present *Trifurcia*), nor in any other known genus. However, the research was postponed until the eventuality of studying fresh material.

During a first trip to Brazil in 1963, I detected a sheet of the species among the undetermined *Iridaceæ* of the "Herbarium Bradeanum" (Rio de Janeiro). This collection, the second since the original of SELLO, beared precise locality data : "Rio Grande do Sul, Caçapava, caminho para a Gruta do Segredo". Two years later, I gathered in that place a number of fruiting plants and planted bulbs in my experimental collection. A few plants flowered the next season confirming the presence of a new genus.



**KELISSA** Ravenna, *gen. nov.*

*Flos regularis pedicellatus. Ovarium clavatum glabrum triloculare ovulis in loculis pluribus superpositis. Tepala libera distincte unguiculata; lamina exteriorum spathulata; interiora exterioribus multo minora cum lamina subcordata parva recta vel ad apicem paullo recurva longitudinaliter area glandulis densis anguste elliptica notata. Filamenta in columna subterete necnon ad apicem angustata coalita. Antheræ erectæ, contiguæ, oblongo-lineares, quam columna filamentorum breviores; pollen fusiforme leviter complanatum unisulcatum. Stylus tenuissime filiformis in columna occultus. Styli rami minimi erecti contigui convoluti ad apicem stigmatosi. Capsula obovato-clavata breviter trivalvata. Semina plura parva angulata.*

*Herbæ bulbosæ humiles. Bulbus tunicatus subglobosus. Folia basalia plicata-costulata flaccida viridia. Caulis floriferus teres inferne folium basalibus simile et bracteas approximatas gerens. Spathæ pedunculatæ bivalvatæ bifloræ; valvæ inæquales superior valde longior.*

**TYPUS GENERIS** : *Kelissa brasiliensis* (Bak.) Ravenna (= *Herbertia brasiliensis* Baker).

Only one species from two localities in the State of Rio Grande do Sul, Brazil. The genus name has its origin in the greek *κελίς*, which means ink stain, alluding to the purple spots of the outer tepals blade.

**GENERIC RELATIONSHIPS**

Although exhibiting the habit of the genus *Trifurcia* Herb. (syn. *Herbertia* Sw., *nom. illeg.*), *Kelissa* shows several features that makes it more similar to *Cypella*, especially to *C. hauthalii*. These are : the relatively long, purple-spotted, tepal claws; the presence of glandular hairs on them; and the dense glandular area (elaiophores) on the inner-tepal blade. In *Trifurcia* claws are rather short, not spotted red-brown, and the elaiophore area is located on them, instead than on the blade.

In *Kelissa*, the staminal column is somewhat slender and longer than the anthers, as in *Trifurcia*. However, it does not show the peculiar bottle-shape of the latter genus. The anthers are linear-oblong, dehiscing lengthwise by extrorse slits; the connective is narrow and obscure. Their carriage has no parallel in the other known genera of the tribe *Tigridiæ* : they are erect, straight, contiguous (Pl. 1, 3), and enclosing the upper part of the style. We could find similar anther-types in certain species of *Sisyrinchium* and *Pseudotrimezia*, but these genera belong to different tribes, and are therefore filogenetically far from *Kelissa*.

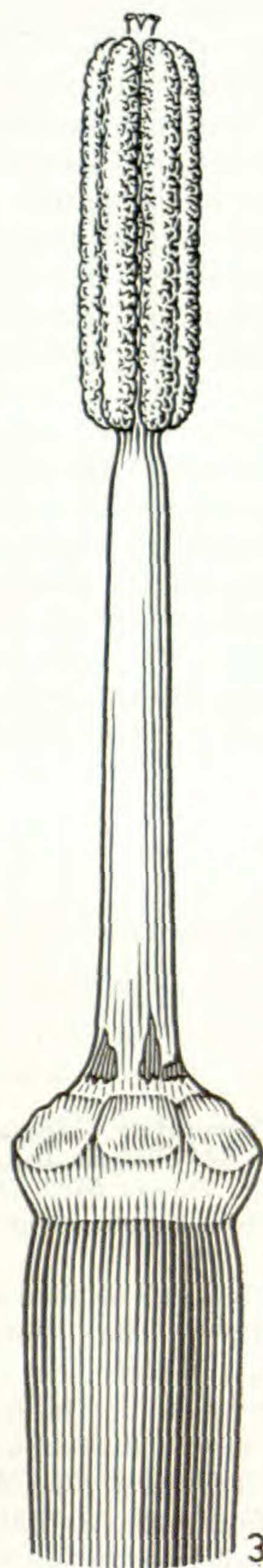
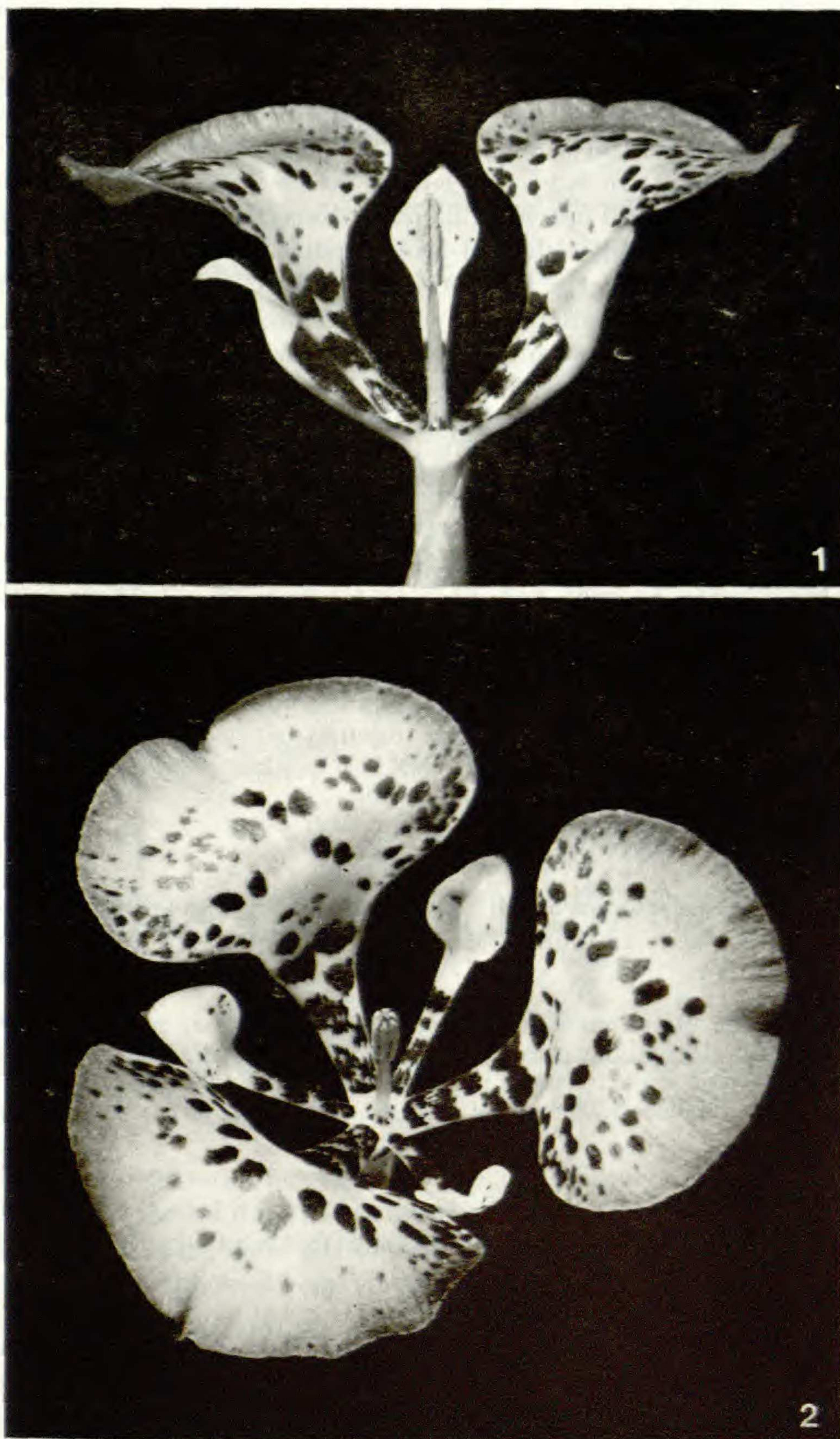
From the above discussion of characters, it appears that *Kelissa* evolved from *Cypella*, possibly through *C. hauthalii*. There is still another genus to be described (RAVENNA, in prep.), which appears as intermediate between the mentioned species and *Kelissa*. Moreover, the latter seems to conform a step toward the genus *Trifurcia*.

***Kelissa brasiliensis*** (Bak.) Ravenna, *comb. nov.* — Pl. 1.

- *Herbertia brasiliensis* BAK., Journ. Linn. Soc., London 16 : 134 (1877).
- *Alophia brasiliensis* (BAK.) KUNTZE, Rev. Gen. Pl. 3 (2) : 304 (1898).
- *Trifurcia brasiliensis* (BAK.) GOLDBLATT, Brittonia 27 (4) : 384 (1975).

**LECTOTYPE** : Sello 2863, B!





Pl. 1. — *Kelissa brasiliensis* (Bak.) Ravenna : 1, side view of flower with an outer tepal removed, showing the andro-gynoecial apparatus ; 2, upper view of flower ; 3, andro-gynoecial apparatus (lower part of the ovary incomplete). — The drawn by the author.



Plant about 8-15 cm high. Bulb subglobose 11-20 mm wide, covered by dark brown coats. Basal leaves about two at anthesis, linear-lanceolate, plicate, flaccid, to 5-11 cm long, 4-6 mm broad, attenuate. Flowering stem with a single leaf and 1-4 bracts. Spathes 2-4, shortly pedunculated, two-flowered, often somewhat ventricose; valves unequal, the lower to 30-33 mm long, the upper about 36-40 mm long. Pedicels as long as the upper valve, rarely shorter. Ovary claviform, to 5.8-7 mm long, 1.85-2.6 mm broad. Perigone a pale violet, spotted, scentless, about 15-20 mm long, 35-45 in diameter. Tepals markedly unguiculate, the claws erecto-patent, yellowish, red-brown-spotted. Outer tepals with the claws 9-10.5 mm long, 1.8 mm broad at the base; the blade semicircular, a pale violet marked at the base by a rhomboidal or elliptic yellow stain and profusely purple spotted, about 13-16 mm long, 22-26 mm broad, spreading but slightly recurved at the apex. Inner tepals to 11 mm long, the claws 7.5-10 mm long, 0.9-1 mm broad at the base, 2 mm broad at the apex; the blade to 5.7-7 mm long, 6 mm broad, obcordate, sometimes straight, almost spoon-like, otherwise with a recurved apex, with a pair of lateral, yellow, minutely black-spotted areas on a yellowish-white ground, and a longitudinal, narrowly elliptic, dense, whitish glandular area (elaiophores); the extreme distal part violet. Staminal column cylindrical, entire, narrowing near the base of the anthers, whitish, marked near the base by small, dark red streaks or spots, about 5.7-8.5 mm long. Anthers linear-oblong, straight, erect, contiguous, slightly adhering each other, to 3.9-4.6 mm long; pollen greenish. Style filiform, very thin, greenish-white, about 12-13.2 mm long. Style arms extremely short, convolute, erect, often contiguous, to 0.35-0.5 mm long, stigmatose at the apex. Capsule obovate-clavate, shortly trivalvate at maturity. Seeds numerous, small, rather angulate, brown.

#### HABITAT

Gentle slopes of the Gruta do Segredo area and westwards, in the region of Caçapava, Rio Grande do Sul, Brazil. Also near Cachoeira, ca. 200 km W of Porto Alegre, same State. It grows among bushes.

SPECIMENS : *Sello* 2863, Brasilia Meridionalis (lectotypus, B); 1370, *ibid.* (paratypus, B); *Pabst* 6448, Brazil, Rio Grande do Sul, caminho para a Gruta to Segredo, 31.10.1961 (HB, Herb. Rav.); *Pereira* 6622, *ibid.*; *Lindemann & al.*, Brazil, mun. Cachoeira, BR 290, ca. 200 km W de Porto Alegre, campo, 3.10.1971 (U, ICN 8300).

BAKER's original description, reproduced below, was too brief and inconclusive: "Habit of *H. pulchella*. Outer segments blue, obovate,  $1\frac{1}{4}$  in. long, an inch broad, inner oblanceolate, 8 lines long,  $\frac{1}{6}$  in. broad, both yellow at the base of the blade and claws spotted with violet". The description given in the present work, made upon living plants, amplifies and emends BAKER's in several important features.

The sheet *Sello* 2863 (lapsus 3863 by BAKER), is designated as the lectotype of *Herbertia brasiliensis* Bak.; it corresponds to several plants of the species and among them an inflorescence of *Trifurcia pulchella*. Several determinations had been joined. The first, chronologically, by SEUBERT, refers to *Cypella spathulata* Seub., an unpublished name; the second by KLATT quotes *Herbertia caerulea* Herb., properly *Trifurcia lahue* (Mol.) Goldbl. subsp. *caerulea* (Herb.) Goldbl.; the third by KUNTZE is the correct; and



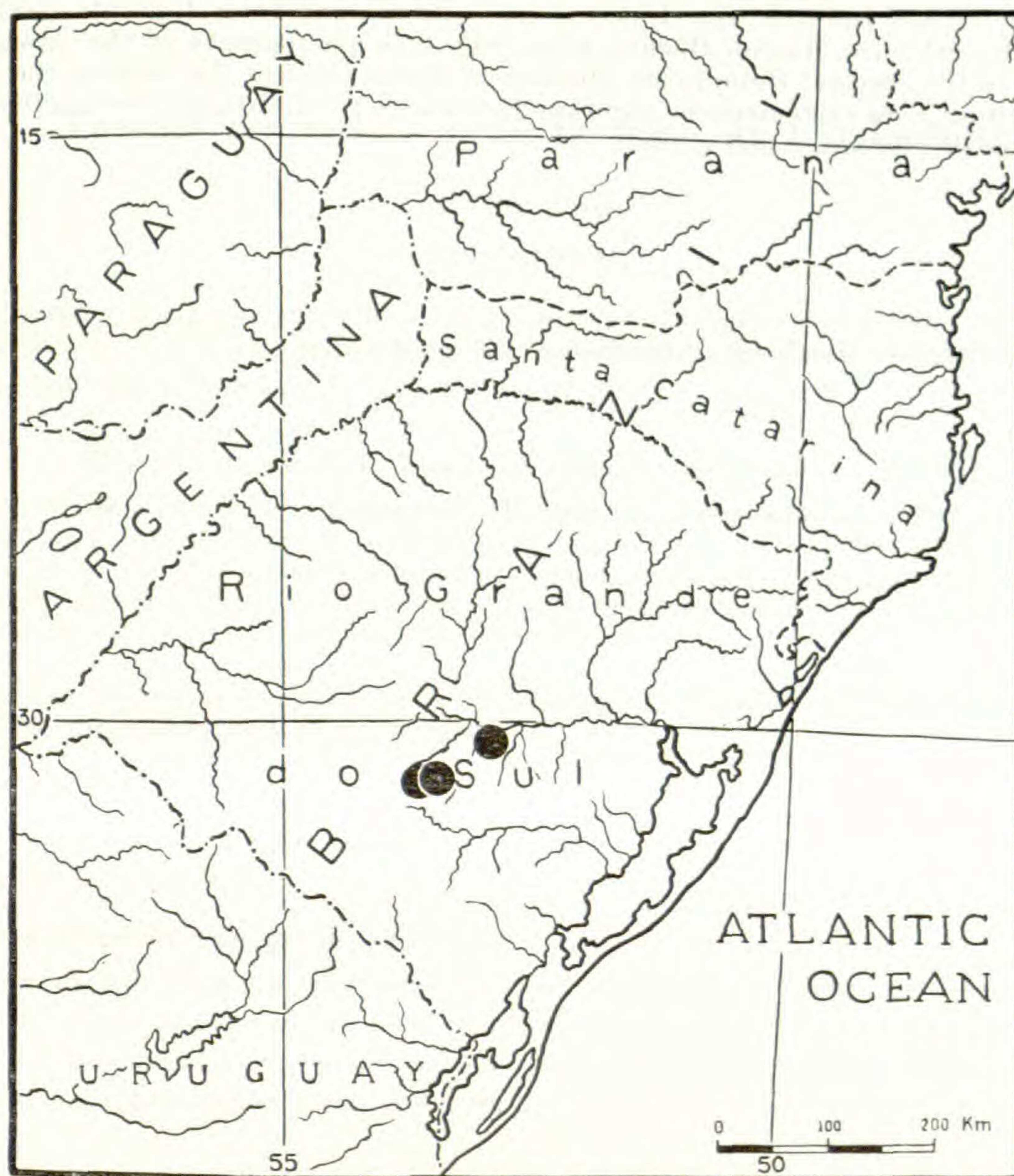


FIG. 2. — Collecting sites (dots) of *Kelissa brasiliensis*; from left to right, areas of Caçapava and Cachoeira.

the last by DIELS, assigns the species to *Herbertia unguiculata* Bak.; this latter binomial, however, is to be referred to another genus.

KLATT (1861-62, p. 555), in a brief treatment of the genus *Herbertia* (= *Trifurcia*), describes this same species under *Herbertia drummondiana* Herb., quoting the same specimens as BAKER (*Sello 1370 & 2863*). Nevertheless, he fails stating “*stigmatis lobis tenuiter bifidis*”. GOLDBLATT (1975, p. 384), in a superficial treatment of the North American bulbous *Iridaceæ*, hastened in transferring the species to *Trifurcia*.

The description and illustration of the species are based on the plants that flowered under culture in Buenos Aires.



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